





Invasive Group B Streptococcus Surveillance 2014-2018

Rhode Island Department of Health

Division of Preparedness, Response, Infectious
Disease and Emergency Medical Services

Center for Acute Infectious Disease Epidemiology

About Invasive Group B Streptococcus



- Invasive Group B Streptococcus (GBS) is a type of bacteria that causes illness in people of all ages.
 - Newborns can be infected during the first week of life (early onset) or from the first week through three months of life (late onset) and experience sepsis, pneumonia, or meningitis.
 - Infections in adults include bacteremia/sepsis, pneumonia, skin and soft-tissue infections, or bone and joint infections.

Data Overview, Invasive Group B Streptococcus



- In 2018, there were 114 cases of invasive Group B Streptococcal disease reported in Rhode Island.
- This represents an incidence rate of 10.8 cases per 100,000 people.
- This is the highest case number and incidence rate in the past five years.
- Part of the reason for the increase is likely due to the introduction of electronic laboratory reporting (ELR) resulting in improved reporting of disease to the state.
 - Hospitals previously only faxed over GBS results when it was isolated in blood. However, ELRs are received for other specimen sources (i.e. bone, tissue) and after investigation are often found to be invasive.
 - It is unknown what other factors, if any, may also be contributing to the increases seen in recent years.

Reported Cases of Invasive Group B Streptococcus, Rhode Island, 2014-2018

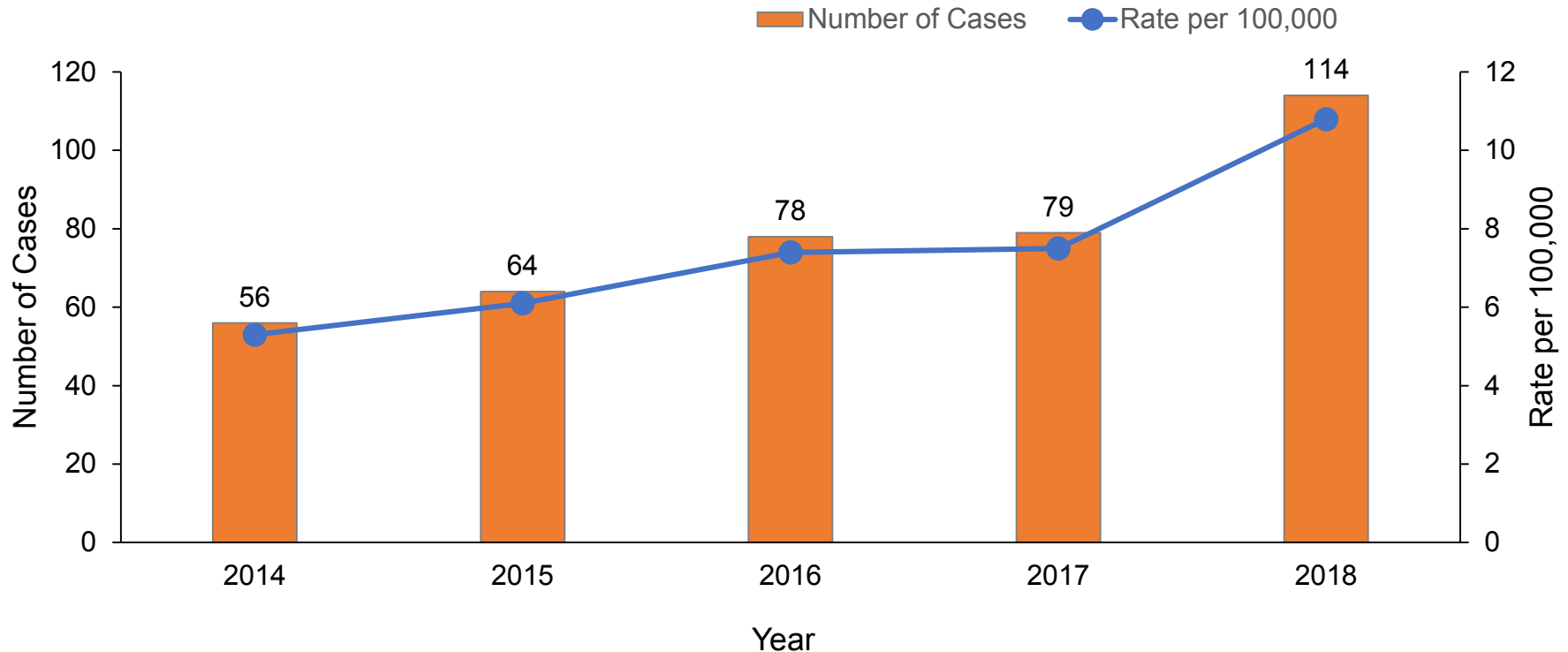


Figure 1: In 2018, 114 cases of invasive Group B Streptococcus disease were reported. This is the highest number of cases reported in the past five years, but is likely explained by improved reporting through the receipt of electronic laboratory reporting (ELR). The case rate in 2018 was 10.8 cases per 100,000 people.



Rate of Invasive Group B Streptococcus, Age Group, Rhode Island, 2018

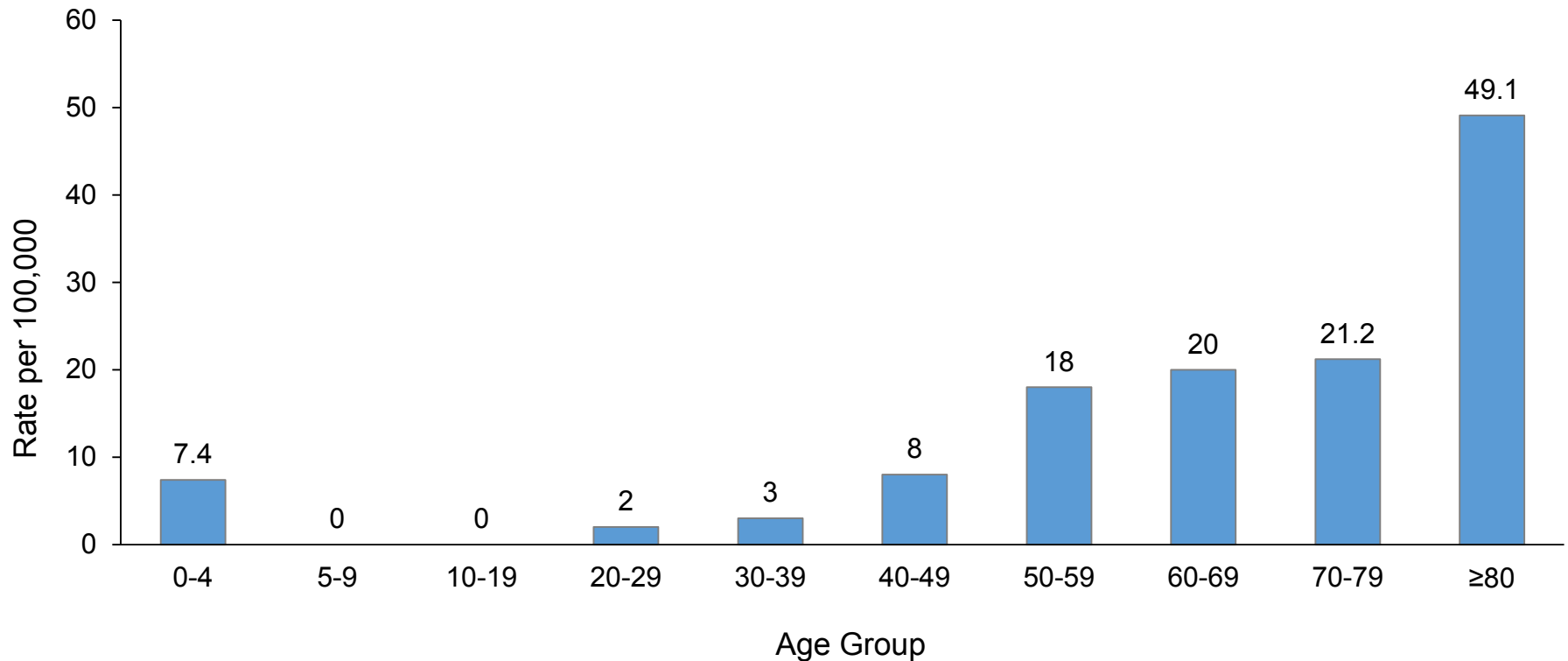


Figure 2: In 2018, the highest rates of disease occurred in adults 60 and older with those 80 and older having the highest rate (49.1 cases per 100,000 people). In 2018, there were 3 reported cases of newborn invasive Group B Streptococcal disease in children three months of age or younger.

Rate of Invasive Group B Streptococcus, Gender and Year, Rhode Island, 2014-2018

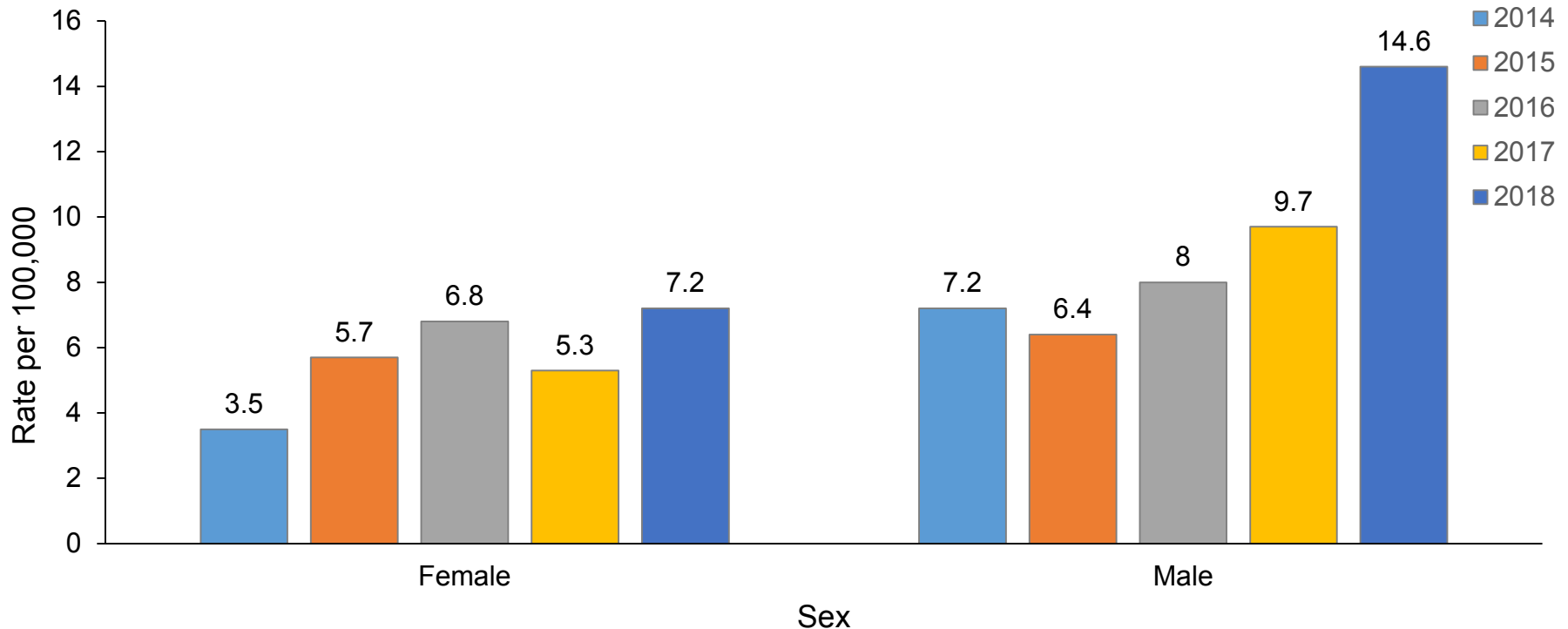


Figure 3: In Rhode Island, invasive Group B Streptococcus disease occurs at higher rates in men than in women. The rate of infection has been consistently higher among men than among women in the last five years. In 2018, rates in men (14.6 cases per 100,000) were higher than they had been in the previous four years and were twice the rate in women (7.2 cases per 100,000).

Rate of Invasive Group B Streptococcus, County and Year, Rhode Island, 2014-2018

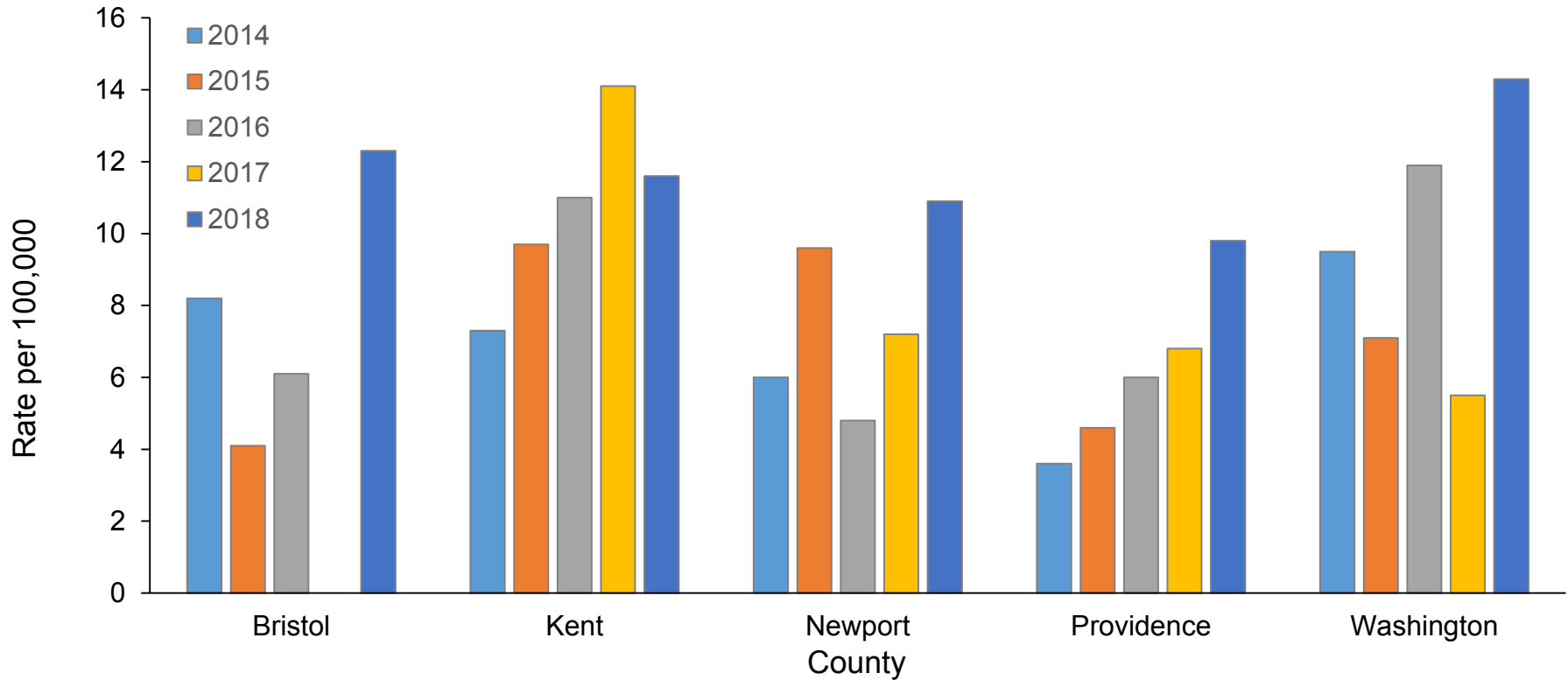


Figure 4: In 2018, the highest rate of invasive Group B Streptococcus cases was in Washington County (14.3 cases per 100,000 people). The highest average rate during the five-year period (2014-2018) was in Kent County (10.7 cases per 100,000 people).

Reported Cases of Invasive Group B Streptococcus, Month and Year, Rhode Island, 2014-2018

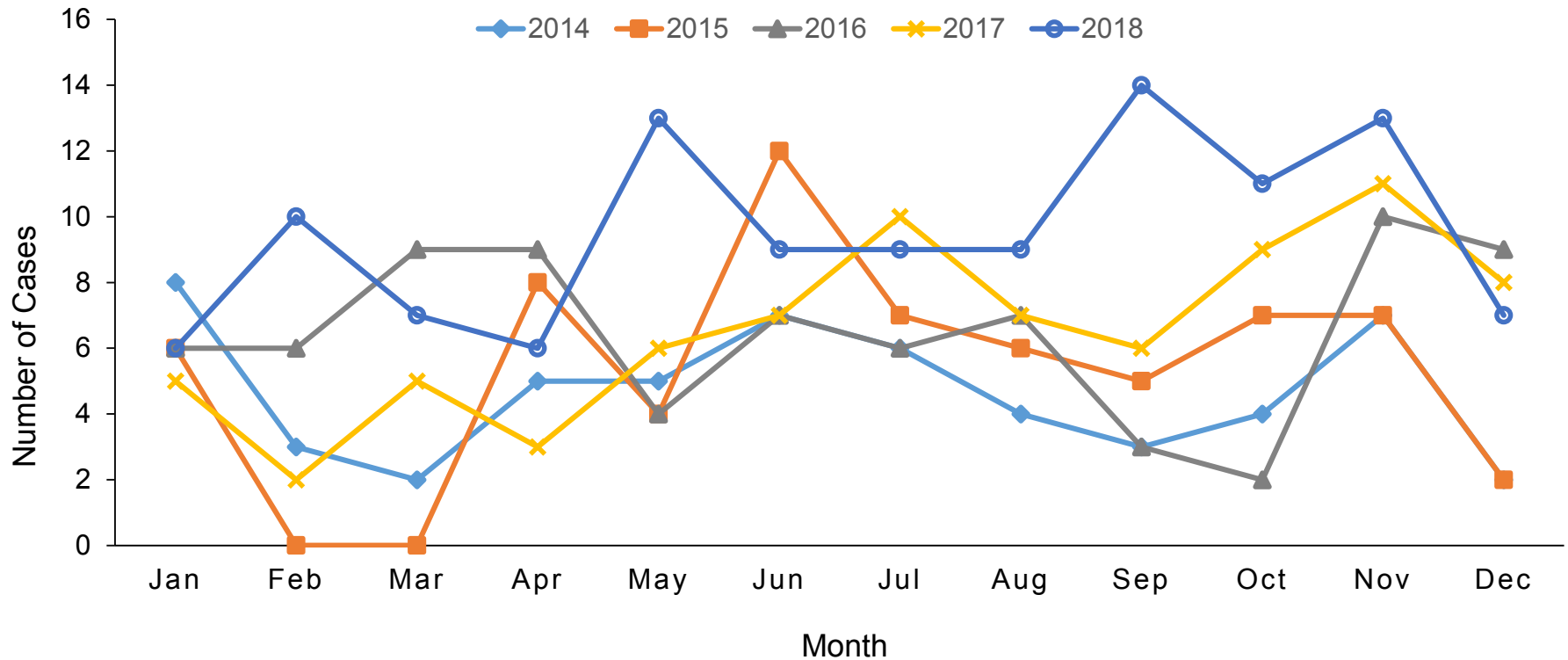


Figure 5: Invasive Group B Streptococcal disease occurs year-round with no trends in seasonality.

Invasive Group B Streptococcus Frequency and Rates by Year, Rhode Island, 2014-2018



Table 1. Frequency by Year

	2014	2015	2016	2017	2018
Number of Cases	56	64	78	79	114

Table 2. Rate by Year

	2014	2015	2016	2017	2018
Rate per 100,000	5.3	6.1	7.4	7.5	10.8

Invasive Group B Streptococcus Frequency, Age Group and Year, Rhode Island, 2014-2018



Table 3. Frequency by Age Group and Year

	2014	2015	2016	2017	2018
0-4	5	4	6	1	4
5-9	0	0	0	0	0
10-19	0	0	2	0	0
20-29	0	3	5	1	3
30-39	0	2	6	7	4
40-49	4	2	3	11	10
50-59	12	15	12	14	27
60-69	10	10	22	16	26
70-79	12	12	10	14	16
≥80	13	16	12	15	24
Total	56	64	78	79	114

Invasive Group B Streptococcus Rates, Age Group and Year, Rhode Island, 2014-2018



Table 4. Rate by Age Group and Year

	2014	2015	2016	2017	2018
0-4	9.1	7.3	11.0	1.8	7.4
5-9	0.0	0.0	0.0	0.0	0.0
10-19	0.0	0.0	1.5	0.0	0.0
20-29	0.0	1.9	3.2	0.7	2.0
30-39	0.0	1.6	4.6	5.3	3.0
40-49	2.9	1.5	2.3	8.7	8.0
50-59	7.6	9.6	7.8	9.2	18.0
60-69	8.5	8.2	17.5	12.6	20.0
70-79	18.8	18.3	14.8	19.4	21.2
≥80	25.9	32.4	24.5	30.7	49.1

Invasive Group B Streptococcus Frequency and Rates, Gender and Year, Rhode Island, 2014-2018



Table 5. Frequency by Sex and Year

	2014	2015	2016	2017	2018
Female	19	31	37	29	39
Male	37	33	41	50	75
Total	56	64	78	79	114

Table 6. Rate by Sex and Year

	2014	2015	2016	2017	2018
Female	3.5	5.7	6.8	5.3	7.1
Male	7.2	6.4	8.0	9.7	14.6

Invasive Group B Streptococcus Frequency, County and Year, Rhode Island, 2014-2018



Table 7. Frequency by County and Year

	2014	2015	2016	2017	2018
Bristol	4	2	3	0	6
Kent	12	16	18	23	19
Newport	5	8	4	6	9
Providence	23	29	38	43	62
Washington	12	9	15	7	18
All	56	64	78	79	114

Invasive Group B Streptococcus Rates by County and Year, Rhode Island, 2014-2018



Table 8. Rate by County and Year

	2014	2015	2016	2017	2018
Bristol	8.2	4.1	6.1	0.0	12.3
Kent	7.3	9.8	11.0	14.1	11.6
Newport	6.0	9.6	4.8	7.2	10.9
Providence	3.6	4.6	6.0	6.8	9.8
Washington	9.5	7.1	11.9	5.5	14.3

Invasive Group B Streptococcus Frequency, Month and Year, Rhode Island, 2014-2018



Table 9. Frequency by Month and Year

	2014	2015	2016	2017	2018
Jan	8	6	6	5	6
Feb	3	0	6	2	10
Mar	2	0	9	5	7
Apr	5	8	9	3	6
May	5	4	4	6	13
Jun	7	12	7	7	9
Jul	6	7	6	10	9
Aug	4	6	7	7	9
Sep	3	5	3	6	14
Oct	4	7	2	9	11
Nov	7	7	10	11	13
Dec	2	2	9	8	7
All	56	64	78	79	114



Notes on Data

- Case counts include patients classified as confirmed and probable cases.
- “Event Date” (used to classify cases by month and year) is generated based on the availability of data in the following order:
 1. Illness onset date
 2. Specimen collection date
 3. Date of report to public health agency
- Rate is calculated per 100,000 population.
- Population denominators are based on the Annual Estimates of the Resident Population: April 1, 2010-July 1, 2018, U.S. Census Bureau.



References

- <https://www.cdc.gov/groupbstrep/index.html>